

1. Form-fill-seal machine comprising means for moving a web of packaging material through the machine according to a process path and means for transforming the web into filled bags, furthermore comprising a zipper strip applicator device having means for supplying a zipper strip for each bag
5 transverse to the process path, which supply means comprise a first and a second conveyor, which in the supply direction of the zipper strip are placed one behind the other and are both provided with means for retaining or engaging the zipper strip during supply, a blade being placed between the first and the second conveyor for cutting the zipper strip, wherein the means
10 for retaining or engaging the zipper strip include vacuum means and retain or engage the zipper strip at various locations along the length of the zipper strip.
2. Form-fill-seal machine according to claim 1, wherein the first conveyor and
15 the second conveyor are driven by one single drive.
3. Form-fill-seal machine according to claim 1, wherein the first conveyor and the second conveyor are positioned below the process path of the web to support the zipper strip.
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4. Form-fill-seal machine according to claim 1, provided with means for adjusting the active length of the vacuum means for the second conveyor.
5. Form-fill-seal machine according to claim 4, the control means being provided
25 with means for comparing an entered zipper strip length and the position in transverse direction to the web and the adjusted length of the vacuum means, and of means for releasing the drive of the machine based on the outcome of said comparison.
- 30 6. Form-fill-seal machine according to claim 5, the means for adjusting the active length of the vacuum means for the second conveyor comprising a tube to be connected to a vacuum source, which tube in its circumference is provided with series of apertures of different length extending in tube direction, and

which is rotatable in an adjustable manner to let a selected series of apertures form the connection between the apertures in the vacuum band and the tube.

7. Form-fill-seal machine according to claim 1, provided with control means for the first and second drive means and the blade, the control means being adjusted to consecutively operate the first drive means to transfer a predetermined length of zipper strip to the second conveyor, to subsequently operate the blade and then operate the second conveyor for positioning the cut-off zipper strip portion transverse to the web.

8. Form-fill-seal machine according to claim 7, the control means being adjusted to let both conveyors move at the same speed during the supply of the length of zipper strip.

9. Form-fill-seal machine according to claim 8, the retaining means of the first and the second conveyors being controlled by the control means.

10. Form-fill-seal machine according to claim 9, the control means being adjusted for continuously activating the engaging means of the first and second conveyors.

11. Form-fill-seal machine comprising means for moving a web of packaging material through the machine according to a process path and means for transforming the web into filled bags, furthermore comprising a zipper strip applicator device having means for supplying a zipper strip for each bag transverse to the process path, which supply means comprise a first and a second conveyor, which in the supply direction of the zipper strip are placed one behind the other and are both provided with means for retaining or engaging the zipper strip during supply, a blade being placed between the first and the second conveyor for cutting the zipper strip, wherein the first conveyor and the second conveyor are positioned below the process path of the web to support the zipper strip.

12. Form-fill-seal machine according to claim 11, wherein the means for retaining or engaging the zipper strip include vacuum means.

5 13. Form-fill-seal machine according to claim 12, provided with means for adjusting the active length of the vacuum means for the second conveyor.

10 14. Form-fill-seal machine according to claim 13, the control means being provided with means for comparing an entered zipper strip length and the position in transverse direction to the web and the adjusted length of the vacuum means, and of means for releasing the drive of the machine based on the outcome of said comparison.

15 15. Form-fill-seal machine according to claim 14, the means for adjusting the active length of the vacuum means for the second conveyor comprising a tube to be connected to a vacuum source, which tube in its circumference is provided with series of apertures of different length extending in tube direction, and which is rotatable in an adjustable manner to let a selected series of apertures form the connection between the apertures in the vacuum band and the tube.

20 16. Form-fill-seal machine according to claim 11, provided with control means for the first and second drive means and the blade, the control means being adjusted to consecutively operate the first drive means to transfer a predetermined length of zipper strip to the second conveyor, to subsequently operate the blade and then operate the second conveyor for positioning the cut-off zipper strip portion transverse to the web.

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17. Form-fill-seal machine according to claim 16, the control means being adjusted to let both conveyors move at the same speed during the supply of the length of zipper strip.

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18. Form-fill-seal machine according to claim 17, wherein the first conveyor and the second conveyor are driven by one single drive.

19. Form-fill-seal machine according to claim 16, the retaining means of the first and the second conveyors being controlled by the control means.

20. Form-fill-seal machine according to claim 19, the control means being
5 adjusted for continuously activating the engaging means of the first and second conveyors.

21. Form-fill-seal machine comprising means for moving a web of packaging material through the machine according to a process path and means for
10 transforming the web into filled bags, furthermore comprising a zipper strip applicator device having means for supplying a zipper strip for each bag transverse to the process path, which supply means comprise a first and a second conveyor, which in the supply direction of the zipper strip are placed one behind the other and are both provided with means for retaining or engaging
15 the zipper strip during supply, a blade being placed between the first and the second conveyor for cutting the zipper strip, wherein the first conveyor and the second conveyor are similar and driven by one single drive and the means for retaining or engaging the zipper strip include vacuum means.

22. Form-fill-seal machine according to claim 21, provided with means for
20 adjusting the active length of the vacuum means for the second conveyor.

23. Form-fill-seal machine according to claim 22, the control means being provided with means for comparing an entered zipper strip length and the
25 position in transverse direction to the web and the adjusted length of the vacuum means, and of means for releasing the drive of the machine based on the outcome of said comparison.

24 Form-fill-seal machine according to claim 23, the means for adjusting the
30 active length of the vacuum means for the second conveyor comprising a tube to be connected to a vacuum source, which tube in its circumference is provided with series of apertures of different length extending in tube direction, and which is rotatable in an adjustable manner to let a selected series of apertures

form the connection between the apertures in the vacuum band and the tube.

25. Form-fill-seal machine according to claim 21, at least the second conveyor being placed below the web.

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26. Form-fill-seal machine according to claim 21, provided with control means for the first and second drive means and the blade, the control means being adjusted to consecutively operate the first drive means to transfer a predetermined length of zipper strip to the second conveyor, to subsequently
10 operate the blade and then operate the second conveyor for positioning the cut-off zipper strip portion transverse to the web.

27. Form-fill-seal machine according to claim 26, the control means being adjusted to let both conveyors move at the same speed during the supply of the
15 length of zipper strip.

28. Form-fill-seal machine according to claim 27, the retaining means of the first and the second conveyors being controlled by the control means.

20 29. Form-fill-seal machine according to claim 28, the control means being adjusted for continuously activating the engaging means of the first and second conveyors.

25 30. Form-fill-seal machine comprising means for moving a web of packaging material through the machine according to a process path and means for transforming the web into filled bags, further comprising a zipper strip applicator device having means for supplying a zipper strip for each bag transverse to the process path, which supply means comprise a conveyor positioned transverse to the process path, which is positioned to support the
30 zipper strip and is provided with vacuum operated means for retaining the zipper strip during the supply and pre-sealing at the lower side of the web.